

*31*  
*44* (new) An angular velocity sensor for detecting an angular velocity component comprising:

an oscillator having mass;

a sensor casing for accommodating the oscillator therewithin;

a flexible member for connecting the oscillator to the sensor casing so that the oscillator can be moved with respect to the sensor casing; and

capacitance elements including a first electrode provided on a surface of the oscillator and a second electrode provided on a surface of a fixed member fixed to the sensor casing.

*2*  
*45* (new) An angular velocity sensor for detecting an angular velocity component about a Z-axis in an XYZ three-dimensional coordinate system, the sensor comprising:

an oscillator having mass;

a sensor casing for accommodating the oscillator therewithin;

a flexible member for connecting the oscillator to the sensor casing so that the oscillator can be moved with respect to the sensor casing with at least a degree of freedom along an XY-plane in the coordinate system;

excitation capacitance elements for oscillating the

31  
cont

oscillator in the X-axis direction based on Coulomb force, said excitation capacitance elements including an electrode provided on a surface of the oscillator and an electrode provided on a surface of a fixed member fixed to the sensor casing; and detection capacitance elements for detecting a displacement of the oscillator in a Y-axis direction, said detection capacitance elements including an electrode provided on a surface of the oscillator and an electrode provided on a surface of the fixed member so that an angular velocity component about the Z-axis can be obtained based on the detected displacement.

3  
46. (new) An angular velocity sensor for detecting an angular velocity component about a Z-axis in an XYZ three-dimensional coordinate system, the sensor comprising: an oscillator having mass; a sensor casing for accommodating the oscillator therewithin;

a flexible member for connecting the oscillator to the sensor casing so that the oscillator can be moved with respect to the sensor casing with at least a degree of freedom along an XY-plane in the coordinate system;

excitation capacitance elements and detection capacitance elements, each including a first electrode provided on a

surface of the oscillator and a second electrode provided on a surface of a fixed member fixed to the sensor casing;

a voltage supplying circuit to apply an a. c. signal to the excitation capacitance elements so that the oscillator is oscillated in the X-axis direction based on Coulomb force; and

a capacitance detecting circuit to detect a capacitance value of the detection capacitance elements so that a displacement of the oscillator in a Y-axis direction is detected and an angular velocity component about the Z-axis can be obtained based on the detected displacement.

*BZ*  
*End*  
*4*  
*47* (new) An angular velocity sensor according to claim  
*463*  
*3* wherein the oscillator and the flexible member are made of  
*1* silicon.

*5*  
*48* (new) An angular velocity sensor according to claim  
*474*  
*4* wherein the oscillator is made of a silicon substrate.  
*1*

Respectfully submitted,

*[Signature]*  
Clifford J. Mass  
c/o Ladas & Parry  
26 West 61<sup>st</sup> Street  
New York, New York  
Reg. No. 30086  
Tel. No. (212) 708-1890